SECTION 1
INTRODUCTION

The purpose of this biological assessment (BA) is to evaluate the effects on threatened and endangered (T&E) species as a result of implementing river management alternatives for the Rio Grande Canalization Project (RGCP). The United States Section, International Boundary and Water Commission (USIBWC) proposes to implement expanded ecosystem-enhancing river management strategies for its RGCP operation and maintenance (O&M) activities, while continuing to deliver water and provide flood control in accordance with the existing convention, treaty, and agreements between the United States and Mexico. Proposed changes in the RGCP O&M and implementation of environmental measures would constitute a major federal action. Potential river management alternatives are currently under evaluation in a draft environmental impact statement (DEIS). This BA will enhance USIBWC's compliance with the following federal and state laws and regulations:

- National Environmental Policy Act (Public Law [PL] 91-190, 42 United States Code, [USC] 4321 et seq.)
- Endangered Species Act of 1973 (PL 93-205) and amendments of 1988 (PL 100-478)
- New Mexico Endangered Plant Species Act (9-10-10 New Mexico Statutes Annotated and attendant Regulation 19 New Mexico Annotated Code 21.2)
- New Mexico Wildlife Conservation Act of 1974 (New Mexico Statutes Annotated 17-2-37 through 17-2-46, 1978 compilation)
- Chapters 67 and 68 of the Texas Parks and Wildlife Code, and Section 65.171-65.184 of Title 31 of the Texas Administrative Code.

1.1 RGCP AUTHORIZATION, LOCATION, AND OPERATION

1.1.1 Description

The RGCP was constructed between 1938 and 1943, as authorized by an Act of Congress approved June 4, 1936 (49 Stat. 1463) to facilitate compliance with the 1906 Convention and properly regulate and control, to the fullest extent possible, the water supply for use in the two countries (United States and Mexico) as provided by the treaty. The RGCP includes the river channel and adjoining right-of-way (ROW) land for which the USIBWC has legal control. The RGCP extends for 105.4 miles along the Rio Grande from the Percha Diversion Dam, located downstream from Caballo Dam in Sierra County, New Mexico, to the vicinity of the American Diversion Dam in El Paso County, Texas. Figure 1-1 depicts the RGCP location.

The 1936 Act authorized construction of the RGCP in agreement with the Engineering Record Plan of December 14, 1935 (Baker 1943). Major elements of the plan were acquisition of ROW for the river channel and adjoining floodways; improvement of the alignment and efficiency of the river channel conveyance for water delivery; and flood control

measures extending through the Rincon and Mesilla Valleys of New Mexico and El Paso Valley in Texas.

As part of the RGCP, a deeper main channel was dredged for a length of 95 miles to facilitate water deliveries for irrigation. The river varies in width from 175 to 300 feet with a depth of 2 to 3 feet in the lower reaches and 7 to 10 feet in the upper reaches. Sections of the river bank are armored with rock revetment to reduce erosion and help maintain a consistent channel alignment. The canalization process removed a number of meanders, reducing the overall RGCP length by approximately 10 miles due to channel cutoffs (Baker 1943).

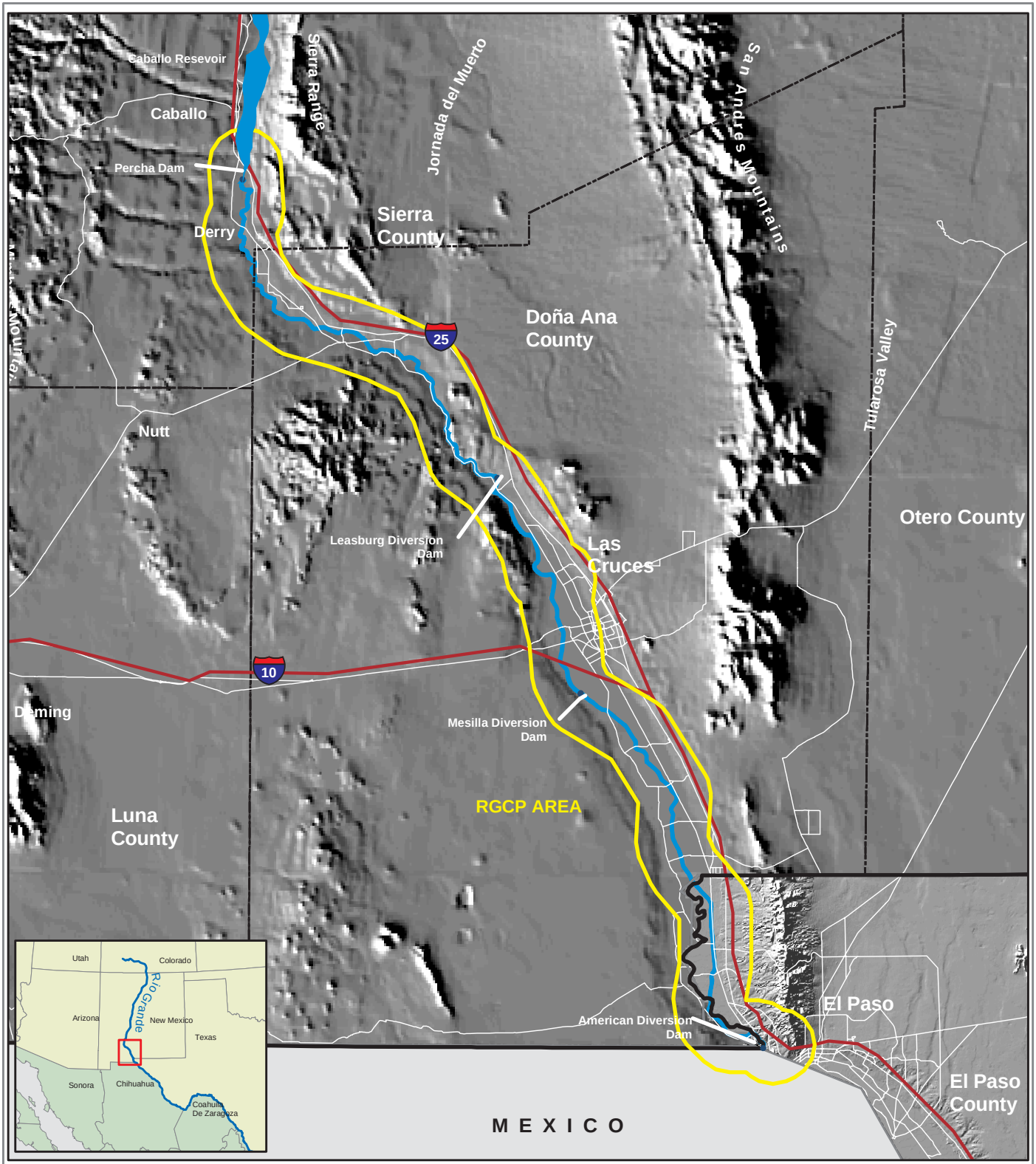
Flood control levees were placed along 131 miles of the RGCP, nearly two-thirds of its length. Associated flood control activities included clearing and leveling of approximately 3,400 acres on the floodplain, diverting arroyo outlets, and constructing sediment control dams. The total sediment volume moved during the original RGCP was over 13 million cubic yards (Baker 1943). Additional features included installation of pipe culverts and drainage gates, removal and construction of bridges, building of access roads, and placement of miles of fence revetment to prevent erosion and create new channel banks.

A significant operational change since completion of the RGCP was construction of sediment/flood control dams in tributary arroyos in the early 1970s by the United States Natural Resources Conservation Service (NRCS). A combination of flood control dams at Broad Canyon, Green Canyon, Arroyo Cuervo, and Berrenda Arroyo, controls discharges over 300 square miles of the RGCP tributary basin, and reduces the flood peak frequency by an estimated 40 percent (U.S. Army Corps of Engineers [USACE] 1996).

Improvement in efficiency of the river channel conveyance was required to deliver irrigation waters to both Mexico, in compliance with the Convention of 1906, and the Rio Grande Project in the Las Cruces and El Paso region. The Rio Grande Project is a regional water initiative coordinated by the U.S. Bureau of Reclamation (USBR) that furnishes irrigation water for about 178,000 acres of land, and electric power for communities and industries in south-central New Mexico and west Texas. Elephant Butte Reservoir, constructed between 1912 and 1916, provides most of the storage for the Rio Grande Project, while three diversion dams route stored water to the irrigation canals: Leasburg Dam, completed in 1908, and Percha and Mesilla Dams, constructed between 1914 and 1919 (USBR 2002).

1.1.2 Operation and Maintenance

The USIBWC has been responsible for maintaining flood control and water delivery capabilities of the RGCP since its completion in 1943. To accomplish this mission the agency performs O&M activities that include sediment removal from the channel and lower end of the arroyos; leveling of the floodway; vegetation management along channel banks, floodway, and levees; replacement of channel bank riprap; care of dams on arroyos; and maintenance of infrastructure such as levee roads, bridges, and gates at the American Diversion Dam.



SCALE = 1 : 1,000,000 or 1 INCH = 83,333 FEET
UTM Zone 13 N / NAD 83

0 5 10 20 30 40 Kilometers

0 3 6 12 18 24 Miles

Figure 1-1 Location of Rio Grande Canalization Project (RGCP)

United States Section,
International Boundary Water Commission

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Throughout the years the USIBWC has strived to incorporate environmental measures and operate and maintain the RGCP to enhance ecosystem conditions while complying with the Congress-mandated mission of flood control and efficient water deliveries to the States of New Mexico and Texas, as well as Mexico. Environmental measures included limited planting of cottonwood trees, selective mowing to retain native vegetation and control salt cedar, test areas of limited mowing, and use of artificial in-stream structures to diversify aquatic habitat as required by a Section 404 dredging permit issued by the USACE. Descriptions of O&M activities and proposed environmental measures are discussed in detail in Section 2.

1.2 REPORT ORGANIZATION AND CONTENT

The BA is organized into seven sections.

- Introduction – Describes the RGCP location, authorization, and operations.
- Description of Alternatives – Describes the river management alternatives under consideration by the USIBWC (note: currently no preferred alternative has been selected).
- Interrelated Studies – Presents a summary of major environmental studies conducted for and related to the RGCP.
- Ecological Setting – Provides a review of the historical setting and existing conditions of the RGCP.
- Methodology – Describes methods used for determining effects of the river management alternatives on T&E species.
- Results – Presents the effects determination of the no-action and action alternatives.
- References – Lists the references used to establish methods and results of report.

The appendices provide information on agency correspondence; RMU descriptions; observed bird, mammal, reptile, and plant species; terrestrial survey locations and habitat; aquatic survey results; and habitat requirements for five federally listed T&E species potentially occurring within the RGCP.

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